CLAIMS

1. A method of manufacturing an oxide dispersion strengthened ferritic steel excellent in high-temperature creep strength having a coarse grain structure, said method comprising mixing either element powders or alloy powders and a Y_2O_3 powder, subjecting the mixed powder to mechanical alloying treatment, solidifying the resulting alloyed powder by hot extrusion, and subjecting the resulting extruded solidified material to final heat treatment involving heating to and holding at a temperature of not less than the Ac_3 transformation point and slow cooling at a rate of not more than a ferrite-forming critical rate to thereby manufacture an oxide dispersion strengthened ferritic steel which comprises, as expressed by % by weight, 0.05 to 0.25% C, 8.0 to 12.0% Cr, 0.1 to 4.0% W, 0.1 to 1.0% Ti, 0.1 to 0.5% Y_2O_3 with the balance being Fe and unavoidable impurities and in which Y_2O_3 particles are dispersed in the steel, wherein a TiO_2 powder is used as an element powder of a Ti component to be mixed at the mechanical alloying treatment.

2. A method of manufacturing an oxide dispersion strengthened ferritic steel excellent in high-temperature creep strength having a coarse grain structure, said method comprising mixing either element powders or alloy powders and a Y_2O_3 powder, subjecting the mixed powder to mechanical alloying treatment, solidifying the resulting alloyed powder by hot extrusion, and subjecting the resulting extruded

solidified material to final heat treatment involving heating to and holding at a temperature of not less than the Ac_3 transformation point and slow cooling at a rate of not more than a ferrite-forming critical rate to thereby manufacture an oxide dispersion strengthened ferritic steel which comprises, as expressed by % by weight, 0.05 to 0.25% C, 8.0 to 12.0% Cr, 0.1 to 4.0% W, 0.1 to 1.0% Ti, 0.1 to 0.5% Y_2O_3 with the balance being Fe and unavoidable impurities and in which Y_2O_3 particles are dispersed in the steel, wherein a Fe_2O_3 powder is additionally added as a raw material powder to be mixed at the mechanical alloying treatment so that an excess oxygen content in the steel (a value obtained by subtracting an oxygen content in Y_2O_3 from an oxygen content in steel) satisfies

$0.67Ti - 2.7C + 0.45 > Ex.O > 0.67Ti - 2.7C + 0.35$

where Ex.0: excess oxygen content in steel, % by weight,

Ti: Ti content in steel, % by weight,

C: C content in steel, % by weight.